

Common Operator Interface

GSAW 98 Breakout Session Summary

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Observations/Issues

- Desire for modifiability by “user” vs developer
 - But by admin, not by each operator
- R&D Support Complex (RSC at Kirtland AFB) found text-based displays preferred by expert operators for greater “density”
- RSC successfully runs multiple missions from same system (but all R&D)
- Effort to automate only worthwhile for long-lived or large constellations, not R&D

Issues 2

- Shorter tour of duty demands Human-Machine Interface (HMI) easier to learn and use
- Different communities seem to want different HMIs (NASA, DoD, NRO, commercial)
 - Driven by different ConOps (e.g., contractor vs military ops, sat control integrated with mission)
- Users tend to want what they currently use
- HMI should conform to environment
 - Leads to “standardization” with variations

Standards in the Marketplace

- Vendors say commercial use dominates DoD
- Different users want different HMIs
 - Not enough consensus to motivate standards
- Is coupling of HMI with applications a conspiracy or incompetence?
 - Some vendors say market drives them to unique user interfaces as competitive plus -- HMI is what sells!
 - Some say not worth the effort to separate out HMI and standardize across functional areas

Basic Arch Alternative

A) Integrated HMI with each functional area

- Example: RSC
- Needs more skilled operators, training

B) Separate HMI module

- Examples: Global Positioning System, Blossom Point, Iridium, Control Channel Toolkit (none)
- Allows more common HMI and integrated view of data from different applications

May be best to **ONLY** standardize Application Programming Interfaces, not HMI

SMC HMI Mgmt Review Team

(formerly HMI Configuration Control Board)

- Revised objective to produce “guidance”
 - No POM funding for implementation
 - GPS and SBIRS expect to be largely compliant
- Goal to define and demo screen designs for all six functional areas by October 98
- JTA/COE version 2 will be mandated for all DoD programs
 - COE HCI guide is “good stuff”

Conclusions

- DoD no longer major driver for vendors
- Encourage vendors who provide API to their functional products and separate HMI
- Consider utilizing COTS product HMI “as is” as part of Cost As Independent Variable
- Consider mandate for JTA/COE version 2 (and its HCI guide)